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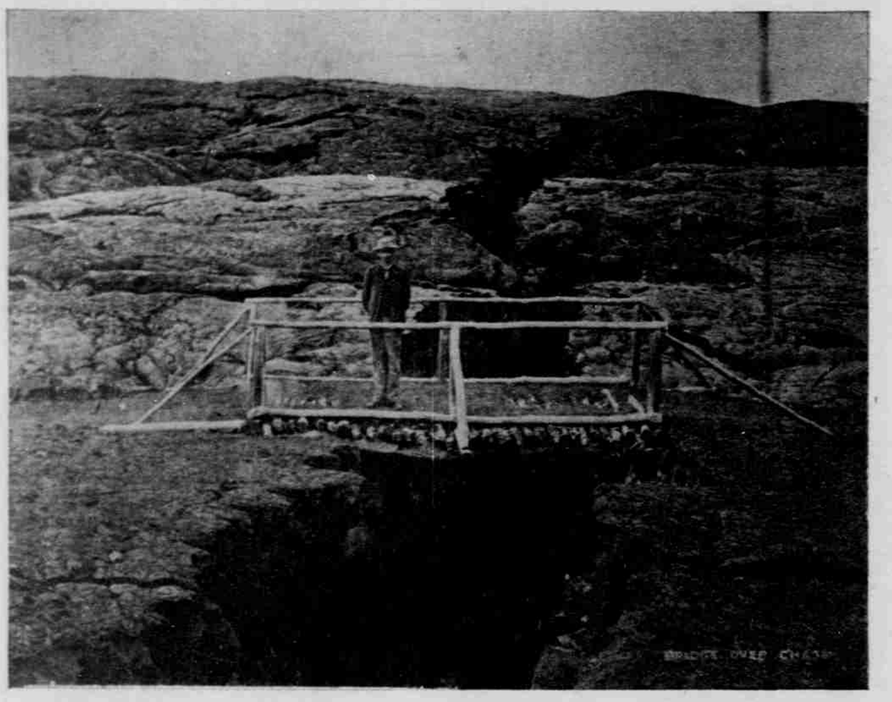
Kilauea, Greatest Active Volcano in the World



CHASM IN FLOOR OF CRATER AND BRIDGE.—(Photo by Williams, Honolulu.)

HAWAII may justly claim having the greatest tourist attraction in the world. The Hawaiian Islands themselves, with their perpetual summer, their balmy sea breezes, their rich tropical foliage and their broad bathing beaches, the finest in the world, are one of nature's greatest attractions for the traveler and the sight seer. But added to all these is the wonderful living Volcano of Kilauea, the most active volcano in the world. The average tourist visiting Kilauea makes the mistake of trying to see the volcano and kindred attractions all in a few hours. Instead of trying to do that, several days should be spent at Kilauea in order to fully comprehend the grandeur of the place. This is so of every one of the world's greatest wonders. I know that when I first visited Niagara Falls, as a youth, I was very much disappointed. I had pictured them in my mind, from descriptions and pictures in the old school geographies, as a perfect lake of water pouring over a precipice thousands instead of hundreds of feet high. But the more I saw of the falls the more their grandeur and magnitude appealed to me. The awful force of that great body of water rushing on over the rapids, finally to take the fearful plunge, held me in perfect fascination. I wanted to linger in sight of them by the hour, and did not want to get far enough away to lose the sound of the mighty cataract.

The same experience befel me in viewing the grand canon of the Colorado, the greatest chasm in all the known world. Standing on the rock of Point Sublime and looking across that mighty chasm, a distance of fully fifteen miles, with a great gorge below extending down, down until it seems as though it was going right into the bowels of the earth, I could not realize that the depth of that chasm was more than a mile and a quarter, and that the distance across to the other bank, would, on the level plain, be nearly 3 hours' ride on horseback. But as one comes to the point a second time, or lingers there, the greatness and magnitude and sublimity of the sight gradually unfolds itself until at last man realizes how puny and insignificant in the world's creation he is, and how mighty and powerful are the works of nature. It becomes awe-inspiring, and even in the mind of the atheist there cannot but arise thoughts of a deity of some kind that had a hand in the making of all this.

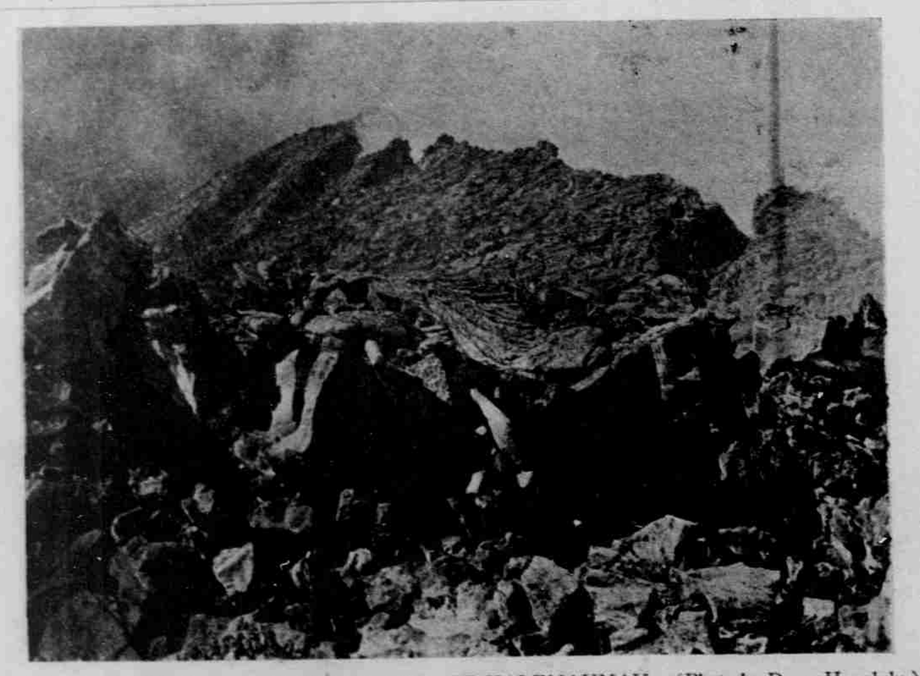
So one has this same feeling when standing on the brink of Kilauea. As the stage draws up to the Volcano House and the traveler looks out over the great crater to the pit of everlasting fire there is a sense of disappointment. The Volcano is not a mountain peak. It is not an opening in the summit of a high and mighty peak, as we have been taught to regard volcanoes from our childhood, but a great caldron of burnt and blackened and charred lava, near the center of which is still another deep depression which goes down into the seething mass of molten lava in the bowels of the earth. Arising from this pit are great volumes of smoke and gases and sulphur fumes that everlastingly pour forth into the air. I have watched them on a still morning and seen them go curling upward, up, and up, and up, until gauged by the nearby summit of Mauna Loa the column of smoke and gases must have reached a height of from five to seven thousand feet.

What a field for speculation in the mighty forces at work in the bowels of the earth to send forth every day, every hour, every minute this continuous stream of smoke and gas. And what a field for speculation by the scientist on the mighty heat energy below that sends this forth. Of the foot pounds or foot tons of power that is here generated and goes to waste, reckoned on the plain of serviceability to man.

In gazing at this sight from the distant crest of the outer rim one does not at first realize the grandeur of what he sees. It is only by a trip down into the crater that one can begin to grasp the awfulness of this formative section of the world. To the scientist a visit to Kilauea is of even greater interest than it is to the tourist. He can see the forces of nature at work as they must have been in the beginning of the world, thousands and tens of thousands of years ago.

Commencing to the northwest, in the creation of the Hawaiian Islands, the molten mass under the sea threw up a chain of volcanos, which in time cooled, and the making of earth and soil on the black and charred rock began. As one eruption cooled another began farther on, until, last of all, stands the mountain of Mauna Loa, on the side of which Kilauea is situated. Explosions have been felt at sea in recent years to the south and east of Kilauea, and there are those who believe that some day another island will be added to the Hawaiian group.

But to return to Kilauea as one of the world's greatest wonders. To many of the old-time residents of Hawaii who have seen this volcano when it was a molten mass of lava it is not active now. I had several old-timers say to me before my visit: "Oh, you won't see much there now; the volcano is not active." To these people the volcano may seem to be not active now, by comparison with what it has been at various periods in the last thirty years, but as a matter of fact it is the most active volcano in the world. Neither Vesuvius nor the so-called active volcanos of Mexico, nor those of Java and Sumatra and Japan can compare in [illegible] Kilauea. At times they are more active than Kilauea is just now, but at no time do any of them afford the grand and weird sight afforded by Kilauea when the lava in the inner lake boils to the surface and begins spreading itself over the floor of the main crater.



LAVA FORMATION ALONG EAST WALL OF HALEMAUMAU.—(Photo by Davy, Honolulu.)

To say that Kilauea is not active now is to say that Niagara Falls are not active, or the Yosemite Falls are not active. If some creature that lived in the pre-Adamite period when great glaciers went sweeping down the lakes and made the plunge over Niagara and helped to cut out the gorge in the rocks, could visit the falls now, and compare them with what they were in the pre-Adamite period, he would no doubt say that the falls are not active now. And yet this would be no more ridiculous than the expressions made by some of the old residents of Hawaii who say that Kilauea is not active now. From the pit of Halemaumau there pours forth every twenty-four hours millions and millions of cubic feet of smoke and gases, fully equal in cubic volume to the amount of water which pours over Niagara Falls every twenty-four hours, so that the absurdity of the statement that Kilauea is not active can readily be appreciated. There is nothing else like it in all the world, and it is well worth a journey around the world to see.

For the information of those who have never seen this wonderful firepit of the world it is well to explain that Kilauea consists of two pits or craters. The crater proper, which is nearly two miles long by one mile and one-half in width, and the inner crater, called Halemaumau, which means in English, House of Eternal Fire. The main crater is from four hundred to six hundred feet below the surrounding bluffs, while no one knows the depth of Halemaumau, but it is generally estimated to be at present about nine hundred feet. This inner crater is probably 800 feet across the longest way by 600 the shortest, being eliptical in formation. In periods of great activity Halemaumau fills with lava to the brim, sometimes pouring over on to the floor of the main crater. In 1891 Halemaumau was a molten lake like some giant cauldron, boiling and boiling. Gradually the molten mass would rise higher and higher, sputtering and sputtering until a break in the rim would be made, and the molten lava would go pouring out over the floor of the main crater. Then relief from the pent-up forces below would be afforded and after a time there would be a sinking of the level of the boiling mass to a considerable distance below the rim.

This inner crater has several times shifted its position, the present crater being further to the south and east than that of 1891, which filled up and gave way to the present crater.

The trip over the bed of the main crater to Halemaumau is one of the most weird that can be found in the world. Leaving the hotel, either on foot or horseback, you follow a well kept trail down the sides of the rim to the floor of the crater, where you set out over a lava bed of recent formation, so recent that even the fern life, which is the most primitive of plant life known, and which will grow long before disintegration of the lava takes place, has not been able to take root. One does not travel far after reaching this lava floor until coming to the great chasm, as it is called, a break in the noor made some time in the eighties. This chasm extends clear across the crater from one rim to the other. It was made one night when lava was pouring over the bed of the crater in little streams. Suddenly there was a great quaking and the hot lava just underneath the surface, which was trying to force itself along from under one of the little hills that had been piled up, like those shown in the illustration, broke away, the floor of the crater was torn asunder and into it went, pouring the molten stream of water seeking the lowest level.

Tradition has it that a party of visitors were out on the floor of the crater when this chasm was formed, it being the custom, in those days, to visit the crater at night, as the sight was more magnificent after dark. Little streams of lava poured over the floor, but the surface cooled and hardened so quickly that one on foot could cross over a fresh stream of lava within a very few minutes after it had passed along. Of course one could not stand on it, for it would burn shoes, and there was great danger in crossing it, for often the surface woud give under the feet like thin ice will do. But, strange to say, no one was ever lost in these night excursions. This party that were cut off by the formation of the chasm were so long absent from the hotel that a searching party was sent out to see what had happened, and the searchers discovered them on the brink of the chasm, unable to get across. The rescuers returned to the hotel, where planks were secured, and these were laid across the chasm so that the imprisoned visitors could get over.

This chasm is now crossed by a bridge sufficiently strong to bear up a horse. Continuing on toward Halemaumau, there is a gradual ascent, as the building up process, which has been going on through the ages, is gradually, but none the less certainly, building up a small mountain within the main crater. Here and there will be seen steam which comes from the bowels of the earth, pouring out of little cracks in the lava. And what fantastic pranks and freaks the lava played when it was pouring over the floor of the crater. Here it has built up a mound which has cracked and checked in all manner of fantastic figures as it cooled. Another mound of lava takes on the form of an Indian wicklup, while still another looks like a great roll of black molasses candy.

As you follow on over the trail you notice by the sound that here and there you are passing over a small cave. Lava, when in the molten condition, cools very quickly on the surface, while that underneath will still be at white heat. This cooling process of the surface causes gases to form underneath, which oftimes results in an explosion, throwing the surface lava into all sorts of shapes. At other times the molten lava finally breaks away at some weak point in the crust and goes traveling onward, leaving the crust standing like an arch with a cavity beneath. Sometimes very considerable caves will be formed in this way, but generally the cavity is only a small one, not over two to four feet in depth and the width of the lava stream, which may be thirty or may be a hundred feet.

While speaking of the flow of lava, it may be well to say that lava does not, like water, always seek its level. A lava flow once started in a given direction goes on in that direction to the end. It travels up hill as well as down dale. The lava flows on the Island of Hawaii show where the lava has run down into and across a small valley and up the opposite side like some monster reptile seeking whom it might devour.

FANTASTIC MOUND OF LAVA.—(Photo by Williams, Honolulu.)

As you near the inner crater of Kilauea the steam cracks become more numerous, and presently can be seen the sulphur beds where the old crater was located, and the hot cracks, or heat cracks, as they are called, which are constantly pouring forth an intense heat. Standing off at a distance and looking over the tops of these cracks the heat waves resemble those seen pouring forth from the furnaces of an ore smelter, where the greatest artificial heat known to man is generated.

On the edges of these heat cracks, which are several hundred feet from the brink of Halemaumau, the lava is so hot that one can not stand in the same [illegible] ments. These cracks are in no place more than one foot wide, being for the most part about six to ten inches in width. Leaning over one of them to get a look down, the hot blast strikes you in the face with such force that for a moment it seems that it must have singed your face, but of course it is not hot enough for that after reaching that high into the air. In looking at the waves of heat from a distance, which pours from these cracks, it seems that surely such intense heat must take on the appearance of flame when darkness settles over the crater, but it does not. But the flame is not far distant. A stick, such as one would use as a staff in mountain climbing, stuck into one of these cracks half its length and held there a few minutes will be taken out all charred and burning at the lower end. On one of my visits to these heat cracks I dropped an ohia stick about five feet long, an inch and a half thick at the heavy end by three-quarters of an inch thick at the small end, into what seemed to be the hottest of these heat cracks, the stick lodging on a cleft about 12 feet from the surface. I held my watch to time it to see how long it would take the stick to be burning, and the entire stick was aflame from one end to the other in fifty-four seconds. This will give one some idea of the heat pouring from these cracks.

Near the edge of Halemaumau are several very interesting caverns or hot caves. It is dangerous visiting them, as the smoke and sulphur fumes from the crater are likely to drop over the entrance to the caverns and envelop you. I had a frightful experience in my attempting to visit them. The wind was light and shifting, the smoke going straight up for considerable periods and then dropping over the edge of the crater like a great cloud. Watching an opportunity, I made a dash for the hot cave with the guide, and going down the ladder had just secured some fine specimens of lava stalactites, when, on looking up, I saw that the smoke was sweeping down over us. I hastily clambered out, only to be caught in a dense volume of sulphur smoke, [illegible] sufferer from asthma at various times for several years past, the reader can readily imagine how the sulphur fumes affected me. I tried to run away, but could only go a short distance, as my breathing apparatus seemed shut up. To my great relief the wind sprang up anew, driving the fumes away. In a few minutes I began to struggle for breath, worse than ever I had struggled in the most serious attack of asthma, and for a while thought that surely I would choke to death. I concluded then and there that people who wanted to visit the hot caves for lava stalactites might do so, I did not want any more specimens. I had managed, however, to hold onto two or three small specimens in my haste to get away.

But the sight of the brink of Halemaumau is the grandest of all. On one of my trips the smoke would pour up in wonderful volumes for a while and then seem to die down, leaving the side walls exposed down to a depth of five hundred or six hundred feet. On the sides of the walls could be seen great spots of virgin sulphur, and here and there streaks of it in the walls like beautiful yellow paintings. The north edge of the crater is constantly caving in, so that one does not dare go too close to it. A stone thrown into the crater brings back no sound, and the volume of smoke is so great at all times that it is impossible to say whether the bottom, if it has a bottom, is a mass of molten lava, or what it is. Presumably, from the vast amount of smoke and gases constantly arising, Halemaumau is an opening for the great world fires raging beneath. The heat around the crater is greater now than it was two years ago, and to the mind of many old-timers in the Islands another period of intense activity on the part of Kilauea is not far distant.

I spoke of the outer rim of the main crater as being from four hundred and fifty to six hundred feet above the floor of the crater. That refers to the first rim, as back from that are two other distinct bluffs or walls clearly indicating that some time in the distant past the crater of Kilauea was much larger [illegible] cracks almost as interesting to the visitor as the crater itself. These steam cracks are fully six hundred feet above the floor of the main crater and fifteen hundred feet above the bottom of Halemaumau. Along this rim these steam cracks follow three distinct crevices or clefts in the rock. At times immense volumes of steam pour forth from these cracks, while again the volume is small. At all times, night and day, there is a constant cloud of steam emanating from them. From two or three the steam comes rushing forth, making a sound like the exhaust from a small boiler, and can be heard some little distance from the cracks. Some of these cracks are large enough to hurl a bullock into, without knowing how far down he would go, while others are small vents no larger than a man's body. Again some of these steam cracks stretch away for a length of several hundred feet, being broken here and there by rocks holding together across them.

On the side of one of the outer rims mentioned, which must mark what was the original outer wall of Kilauea,

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LOOKING INTO HALEMAUMAU FORM NORTH WALL.—(Photo by Williams, Honolulu.)